



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Remediation - Oak Ridge
761 Emory Valley Road
Oak Ridge, Tennessee 37830



February 3, 2023

Mr. Roger Petrie
Oak Ridge Office of Environmental Management
U.S. Department of Energy
Post Office Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Petrie

TDEC Comment Letter for Non-Significant Change to the Record of Decision for Phase I Interim Source Control Actions in Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1951&D3)

The Tennessee Department of Environment and Conservation, Division of Remediation-Oak Ridge Office, received the above referenced submittal on January 18, 2023. The document has been reviewed pursuant to the Federal Facility Agreement for the Oak Ridge Reservation, and TDEC offers the following comments.

During the past several weeks, the FFA project team has discussed the appropriateness of using the non-significant change (NSC) process to document the proposed modifications to the Upper East Fork Poplar Creek (UEFPC) Record of Decision (ROD). DOE's proposed *Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation/Demolition Project, Oak Ridge, Tennessee: Alpha-2 Complex Demolition, (DOE/OR/01-2479&D1/A13/R2)* involves demolition of the Alpha-2 building and the filling by Controlled Low-Strength Material (CLSM) of the basement and the one remaining operational sump in the basement of Alpha-2 in order to provide structural support for equipment needed in the demolition process. This sump currently collects approximately 10 gpm (≈ 5 Mgal/year) of mercury-contaminated water from the Alpha-2 basement and directs it to the Big Spring Water Treatment System (BSWTS) for treatment before discharging to UEFPC. The treatment of this contaminated water is prescribed in the ROD, and TDEC has previously taken the position that a removal action document cannot change the earlier Record of Decision.

While supportive of the demolition, TDEC's interest is ensuring the appropriate CERCLA ROD modification process is followed both in this situation and future similar situations. 40 CFR §300.435 provides for use of different approaches to modify RODs during implementation of the remedy. NSCs are not mentioned in this regulation, but include those changes agreed upon by the FFA parties to not be "significant" in terms of "scope, performance and cost" (requiring ESD) or "fundamental" (requiring ROD amendment). TDEC is interested in expediting the Alpha-2 D&D project and is willing to approve the NSC subject to clarity in expressing the following requirements:

1. The change related to the Alpha-2 sump must be stated as temporary with a permanent decision reserved.
2. The change must be supported by monitoring while the sump is filled, and demolition is conducted.
3. Monitoring must be evaluated and there must be potential contingencies for further action based on data showing adverse impact from not operating the sump.

First, the NSC must clearly state the measure taken is temporary. Use of a non-significant change is not appropriate for a permanent elimination of a requirement in the ROD.

As a past example, the NSC process was used for a similar situation with the Alpha-5 facility. However, the actions at Alpha-5 were stated as being temporary and only proposed to continue for the period necessary to address the brine leak. The Alpha-5 NSC authorized cessation of pumping from the sumps for treatment, but it did not involve filling the sump basins and eliminating collection of groundwater. More importantly, as stated before, it did not authorize a permanent change to the ROD. In the case of this Alpha-2 project, there has been language in earlier drafts of the *Removal Action Work Plan Addendum* (December 2022) stating a future, permanent decision will be made by all the FFA parties for further action regarding mercury contamination in groundwater from the Alpha-2 basement. However, DOE currently appears to intend a permanent stop to the operation of the Alpha-2 sump with no plan to resume operations of the sump after demolition. TDEC expects a future, permanent decision regarding contaminated groundwater below Alpha-2 that would be based on review of monitoring data collected while the Alpha-2 basement sump was filled during demolition activity.

Considering the NSC approach is not appropriate for permanent actions, there must be a commitment to address this contamination source once the need for temporary cessation of treatment has been resolved.

Second, monitoring should be planned during the period of demolition when the sump is not operational.

As DOE moves forward with the implementation of this Alpha-2 work under their removal action authority and turns off the sump, TDEC expects DOE to have established an appropriate monitoring plan to detect potential impacts to both groundwater and surface water. The monitoring plan should be developed in consultation with the FFA parties. The intent of this monitoring is to identify potential impacts to water resources and any need to address these impacts.

Third, the plan for monitoring should also recognize the potential for contingency action depending on evaluation of data.

Given that DOE's data discussed during the project team meetings demonstrates that mercury has not been detected in any of the groundwater wells around the facility, TDEC suspects a cone of depression has been created in this area which will disappear when the sump is turned off. This data indicates the effectiveness of the sumps to collect groundwater and prevent contamination reaching the creek. While removal action authority is being used for building demolition, the removal actions should not interfere with achievement of the Upper East Fork Poplar Creek Phase 1 Interim ROD goal of reaching an instream concentration of 200 ng/L at Station 17. Given karst hydrogeology and proximity to the creek, any additional groundwater contamination caused by not operating the sump could reach the creek quickly. The ability to evaluate impacts from this activity while also collecting information to assist the implementation of a contingency action, if needed, are required components for this proposed activity. FFA documentation should reflect tri-party agreement on an acceptable monitoring plan and data evaluation process to consider any additional or contingent actions that may be needed. DOE should not turn off the sump until an acceptable monitoring plan is in place to determine potential environmental impacts.

Questions or comments concerning the contents of this letter should be directed to Cody Juneau at the above address or by phone at (865) 220-6565.

Sincerely



Randy C. Young
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